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conducted by W. G. Eversole and C. F. Bjork in the Physical Chemistry laboratory at the State U. Of Iowa. Since the change in free energy may be considered as the driving force in a chemical reaction the authors felt that it might prove interesting to conduct a few investigations pertaining to it.

Vapor pressure measurements were made on aqueous potassium nitrate solutions. Geometric mean activities of ions were calculated. The free energies of dilution of both solvent and solute were determined. Finally an empirical equation was derived which showed the relationship between the actual composition of the solution and its volume. This facilitated the calculation of partial molal volumes.

11. **A Modified Periodic Chart.** L. B. Roberts, Arkansas, A. & M. College. 12 minutes.

12. **How Should Science Be Taught to Aid in Our Present Emergency.** I. A. Wills, John Brown University. 12 minutes.

13. **Objectivity in Biology.** C. E. Abbott, Harding College. 10 minutes.

14. **The Use of Living Materials in Teaching General Science and High Biology.** Miss Mildred R. Pool, John Brown University. 12 minutes.

15. **Some Trends and Problems in Present Day Teaching of Secondary Physics.** L. B. Ham, U. Of Ark. 15 minutes. Broadening the educational base in our school system, and the rapid development in physics have brought unforseen problems in the conduct of Physical Science in the secondary schools. Physicists feel that many of the resulting problems can be solved only by cooperative action of leaders in the various scientific fields and in the educational field. Moreover, the resulting march of scientific progress, as far as physics is concerned, in upsetting the established social and economic order is not sufficiently recognized by the social science worker so that balanced coordination between physical science, social science and the economic order can be established. The march of science presents our society with a continuously changing social order.

16. **Strategic Mineral Resources of Arkansas.** R. J. Anderson, acting State Geologist. 30 minutes. A discussion of Arkansas mineral resources of strategic importance with special emphasis on recent development in their discovery and utilization. Illustrated.

27th Annual Meeting May 1, 1943
University of Arkansas School of Medicine, Little Rock, Arkansas

1. **Treatment of Cancer by Radiation.** J. S. Wilson, M. D., Mack Wilson Hospital, Monticello. 15 minutes. After discussing the cancer problem from the standpoint of human waste and of suffering and the need of education, both to encourage prompt application for treatment and to discourage reliance on "quacks", the author takes up the types of cancer and their treatment. The history and present use of radiations (both those from radium and the X-rays) in cancer treatment are particularly emphasized.

2. **Reducing Action of Sugars and the Longevity of Flies.** Cyril E. Abbott, Independence, Iowa. 10 minutes.

3. **Notes on the Behavior of a Coral Snake in Captivity.** Cyril E. Abbott, Independence, Iowa. 5 minutes.

4. **Inherited Poliomyelitis.** Dr. Erwin, Henderson State Teachers College, Arkadelphia.

5. **Some Aspects of Arkansas Science in Service for the War Emergency.** D. M. Moore, University of Arkansas, Fayetteville. 10 minutes. Arkansas Science and scientists are contributing much and have potentialities for far greater contributions. Some of these in various fields--especially botanical--are pointed out.

6. **Suggestions for the Placement of Conservation in the Curriculum of Secondary Schools in Arkansas.** Irvin A. Wills, John Brown University, Siloam Springs. 10 minutes.

28th Annual Meeting May 6, 1944.
University of Arkansas School of Medicine, Little Rock, Arkansas

1. **Notes on the Nesting and Incubation of the Eastern Red-wing (A. P. Phoeniceus).** H. N. Marvin and Margaret Banta Marvin. U. of Arkansas, School of Medicine. The topography of a small marsh on Long Island, N. Y. made possible a rather detailed study of ten Red-wing nests. The resident male Red-wings arrived March 8, and nesting began May 10, 1942. The first eggs were laid one to five days after the nests were completed, followed by one egg each day for the next three days. Incubation began with the laying of the third egg and usually resulted in three eggs hatching on the fourteenth and one egg on the fifteenth day after the first egg was laid. Removal of eggs from one nest failed to increase the number of eggs laid, and the addition of eggs to one nest did not stop laying. All forty eggs hatched and all young lived to leave the nest. It was suggested that the later in the season the eggs hatched the less time the young remained in the nest. The male Red-wing is polygamous and very sharp territorial limits are observed among them. The males were not disturbed by nesting mallards and warblers but they were greatly excited when their territories were invaded by crows.

2. **Blood Cells of Reptiles and Birds Compared to Those of Mammals.** D. L. Ryerson, U. of Arkansas School of Medicine (Anatomy Department). While the red blood corpuscles of mammals lack nuclei, those of other vertebrates are true nucleated cells. These true cells possess mitochondria, Golgi material during development, and bodies staining with neutral red dye.

White blood cells of birds may be classified in the same groups that are found in mammals except that the place of the mammalian blood platelet is taken by true cells (thrombocytes). The leucocytes of turtles are similar to those of birds. Snakes and lizards, with only one recorded exception, do not possess cells which are counterparts of true eosinophiles of turtles, birds, and mammals.

Laboratory methods of studying blood cells, such as total cell counts, smears, and supravitally stained living cells, will be considered briefly.

3. **A Pedigree of Sex-linked Recessive Peroneal Atrophy.** W. G. Ervin. State Teachers College. Sex-linked peroneal atrophy is characterized by the inability to support weight on the heels, a gradual atrophy of the calf of the leg, severe pain